

CLAIMS

What is claimed is:

1. A modular airbag door assembly comprising:
an airbag chute having a front side and a rear side and defining an opening extending therethrough;
a door panel pivotally mounted to said front side of said airbag chute and covering said opening;
said airbag door assembly further including a plurality of weld studs extending from said rear side of said airbag chute, said weld studs adapted to allow said airbag door assembly to be mounted to a substrate with said rear side of said chute being positioned against a front side of the substrate.
2. The modular airbag door assembly of claim 1 further including a seal extending around an outer periphery of said airbag chute and an outer periphery of said door panel to provide a seal between said outer periphery of said airbag chute and said outer periphery of said door panel.
3. The modular airbag door assembly of claim 2 wherein said seal comprises a piece of tape affixed to and extending around said outer periphery of said airbag chute and said door panel.

4. The modular airbag door assembly of claim 1 further including a seal mounted to said rear side of said airbag chute to provide a seal between said rear side of said airbag chute and a front side of a substrate to which the modular airbag door assembly is to be mounted.

5. An instrument panel for an automobile passenger compartment comprising:

a substrate having an outer surface and an inner surface and defining an opening extending therethrough;

a modular airbag door assembly mounted to said outer surface of said substrate; and

an airbag device mounted to said modular airbag door assembly adjacent said inner surface of said substrate.

6. The instrument panel of claim 5 wherein said modular airbag door assembly comprises:

an airbag chute having a front side and a rear side and defining an opening extending therethrough;

a door panel pivotally mounted to said front side of said airbag chute and covering said opening;

a plurality of weld studs extending from said rear side of said airbag chute, said weld studs engaging said substrate to secure said airbag door assembly onto said outer surface of said substrate; and

portions of said airbag chute extending through said opening within said substrate, said airbag device being mounted to said portions of said airbag chute that extend through said opening within said substrate adjacent said inner surface of said substrate.

7. The instrument panel of claim 6 further including a seal extending around an outer periphery of said airbag chute and an outer periphery of said door panel to provide a seal between said outer periphery of said airbag chute and said outer periphery of said door panel.

8. The instrument panel of claim 7 wherein said seal comprises a piece of tape affixed to and extending around said outer periphery of said airbag chute and said door panel.

9. The instrument panel of claim 6 further including a seal positioned between said outer surface of said substrate and said rear side of said airbag chute.

10. The instrument panel of claim 6 wherein said door panel is formed from metal and said substrate is formed of plastic.

11. The instrument panel of claim 10 wherein said door panel has stiffening ribs formed therein.

12. The instrument panel of claim 6 wherein said door panel includes a top flap portion that is secured to said front side of said airbag chute.

13. The instrument panel of claim 6 further including a skin covering extending over said substrate.

14. The instrument panel of claim 13 wherein said skin covering includes a pre-weakened pattern outlining an outer periphery of said door panel, said pre-weakened pattern providing a break point to allow a controlled portion of said skin covering immediately over said modular airbag door assembly to break away upon deployment of said air bag device, said skin providing no external indicia of the air bag device located beneath.

15. The instrument panel of claim 13 further including foam positioned between said skin covering and said substrate.

16. The instrument panel of claim 15 wherein said substrate includes an outwardly extending ridge formed around portions of said opening within said substrate to provide a tear initiator for said foam during deployment of said airbag device.

17. A method of forming an instrument panel for an automobile passenger compartment including the steps of:

providing a substrate having an outer surface, an inner surface, and defining an opening therein;

mounting a modular airbag door assembly to the outer surface of said substrate such that portions of the airbag chute extend through said opening within said substrate;

extending a skin covering over the substrate;

injecting foam between the skin covering and the substrate to fill the space between the skin and the substrate; and

mounting an airbag device to the airbag chute adjacent the inner surface of the substrate.

18. The method as set forth in claim 17, further including the steps of forming the door panel and the airbag chute from metal and forming the substrate from plastic.

19. The method as set forth in claim 17, further including the step of forming a non-visible weakened pattern within the skin covering that outlines the outer periphery of the door panel for providing a break point to allow a controlled portion of the skin covering immediately over the door panel to break away upon deployment of the air bag device.

20. The method as set forth in claim 17 wherein said modular airbag door assembly comprises:

- an airbag chute having a front side and a rear side and defining an opening extending therethrough;

- a door panel pivotally mounted to the front side of the airbag chute and covering the opening within the airbag chute; and

- a plurality of weld studs extending from the rear side of the airbag chute, the weld studs adapted to engage the substrate to secure the airbag door assembly onto the outer surface of the substrate.